

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Health Services Administration  
Indian Health Service  
Rockville, Maryland

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INDIAN HEALTH SERVICE CIRCULAR NO. 81-8

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SANITATION FACILITIES CONSTRUCTION

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1. PURPOSE

The purpose of this issuance is to establish uniform policy for the operation of the Indian Health Service (IHS) Fluoridation Program.

2. POLICY STATEMENT

It is the policy of the IHS to extend the dental decay preventive benefits of optimally fluoridated community drinking water to American, Indians and Alaska Natives to the greatest extent possible.

Adjustment to optimal levels of fluoride concentrations in drinking water is indicated when all of the following criteria are met:

1. Naturally occurring fluoride levels are less than the lower recommended control limits of the National Interim Primary Drinking Water Regulations (NIPDWR).
2. Fluoridation of the water supply is acceptable to the community being served.
3. The supplier of water agrees to monitor, operate, and maintain the fluoridation equipment; a practice that is consistent with the responsibility that the supplier of water assumes for any sanitation facility under the supplier's control.

4. Design and/or physical configuration of the water system can incorporate or be adapted to incorporate fluoridation equipment. Present physical plant or operation and maintenance deficiencies shall not; a priori, disqualify a system for inclusion of fluoridation equipment.

Special considerations which should strengthen indications for fluoridation are:

Decay rates higher than area mean decay rates;

Higher than area mean child/adult population ratio;

Limited access and/or availability of clinical dental services;

Expressed desire, rather than only acceptance, by the community to have the benefits of fluoridation.

There is no absolute minimum community size to justify installation and operation of fluoridation equipment. However, as an indicator, in a community with as few as 30 children and an average decay rate (two new decayed, missing, filled, or indicated for extraction, teeth per year), fluoridating the water supply would be approximately four times as cost-effective as not fluoridating.

Where it is not possible to fluoridate community water systems\*, or in areas where homes are served by fluoride deficient individual water systems, efforts, consistent with P.L. 86-121 policy, shall be made to fluoridate local day school water systems so as to at least extend benefits to school age children.

Where Indians are served by non-Indian community water systems under State control, the IHS will consult with and provide assistance to State officials in promoting and implementing community fluoridation programs.

### 3. OBJECTIVES, RESPONSIBILITIES, AND FUNCTIONS

This policy is to be accomplished through the following seven objectives.

Objective 1: To promote and provide health education concerning the benefits and methodologies of water fluoridation to tribal, community, and IHS people.

Primary Responsibility: Area and Service Unit Directors (SUO).

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\*For the purpose of this policy issuance, a community water system is defined as one that provides piped water to two or more homes.

Functions:

- a. Establish and maintain a fluoridation team composed of personnel with health education, environmental health, dental, and/or other expertise as appropriate under a designated team coordinator at Service Unit and Area levels that:
  - Meets regularly
  - Formulates an overall fluoridation plan, responsive to the IHS fluoridation policy, for their respective Service Unit or Area.
  - Evaluates; maintains; develops, where necessary; and distributes fluoridation information materials.
  - Orients new IHS and tribal staff to the merits of fluoridation and the IHS Fluoridation Program.
  - Presents fluoridation information to community/tribal/school groups.
  - Provides continuing education experiences for, and disseminates fluoridation information materials to, IHS/tribal/community people working in the fluoridation effort.
  - Maintains a current file of any resolutions that each community and/or tribe may have adopted in favor of or opposing fluoridation, and forwards a copy to the Area OEH and Dental Offices.
  - Keeps SUD and Area Director informed, as appropriate, on progress or problems with fluoridation program.
- b. At least annually, requests an opportunity to present the fluoridation option to tribal/community governing authorities for consideration in nonfluoridated communities where a desire for fluoridation has not yet been expressed. Such presentations preferably by the Dental Program, to include description of need to fluoridate, benefits, costs, responsibilities, and potential of IHS funding for providing and installing the equipment.
- c. At least annually arranges for the Area/Service Unit Dental Officer to provide a report to tribal/community governing authorities on systems with adjusted fluoride levels as to status/progress of fluoridation program.

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\*It is recommended that Area and Service Unit Dental Officers be designated as team coordinators and that the team include tribal representation.

Objective 2: To summarize the status of fluoride level adequacy and existence of, or need for, fluoridation equipment as an integral part of the annual report on Sanitation Facilities Serving Indian and Alaska Native people.

Primary Responsibility: OEH, Headquarters; DEH Area/Program Directors; and DEH Staff.

Functions:

- a. Maintains and annually updates information in the Sanitation Facilities Data System that will indicate for each water system:
  - The existence/need for fluoridation/defluoridation;
  - The compliance status of fluoride level with the desired range.
- b. Unless a community has determined it does not want fluoride added to its water, estimates the cost of providing needed equipment, appurtenances, training, and a 1-year supply of chemicals, as a part of the unmet needs for each sanitation facility. The information shall be reported into the Sanitation Facilities Data System.
- c. Prioritizes the unmet needs of each sanitation facility, including fluoridation needs, using the Sanitation Facilities Data System. A high priority shall be given to meeting fluoridation needs within community water systems.
- d. Prepares annual reports on the status of fluoride level adequacy and existence or need for equipment, sorted by Area, Service Unit, reservation, and community, and provides three sets of printouts to the respective Area Directors for distribution.

Objective 3: To provide for purchase and installation of Fluoridation equipment (chemical feeders, analyzers, and safety equipment).

Primary Responsibility: DEH Area/Program Directors and DEH staff.

Functions:

- a. As project funds for new or improved sanitation facilities\* to serve existing homes become available and the Project Summaries are prepared, they shall address the status of fluoridation, including estimated costs of operation and maintenance, and whether equipment will or will not be installed. Rationale for the decision should be based on the previously listed indicators. This decision will be reviewed with the Chief, Service Unit Dental Program; the SUD; and the Chief, Area Dental Services Branch, prior to referral of the Project Summary to the IHAD for signature.

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\*A sanitation facility includes a water system and any related waste disposal facilities.

- b. Where sanitation facilities are to be constructed or improved to serve new or improved housing (housing funds), the Project Summary shall address fluoridation. Rationale will include the same criteria as the previous paragraph and the decision will be similarly reviewed.
- c. To the extent that the IHS can make special or other funds available to the Areas for fluoridation, these funds shall be utilized where the maximum improvement in oral health, per dollar expended, can be realized.
- d. Increased capital costs for installing fluoridation equipment shall not in and of itself be sufficient reason to omit fluoridation equipment from the system, or to not actively promote fluoridation to the tribal government and/or community.
- e. Each Area OEH will standardize equipment installed to the maximum extent feasible in order to facilitate simplicity and safety of operation, procurement of replacement parts, and procurement of chemicals.
- f. For community water systems serving Native Americans but not owned by tribal/native groups, i.e., city, county, districts, Bureau of Indian Affairs, etc., the IHS shall promote and where feasible share in the purchase/installation cost of fluoridation equipment on a pro-rata basis with the owners of the system according to the authorities of P.L. 86-121.
- g. Wherever the IHS is involved in the provision of fluoridation equipment, the IHS will:
  - 1. Assure that water systems operators have access to accurate fluoride analytical instruments or analytical service.
  - 2. Provide necessary safety equipment and training in safety measures for water system operators.

Objective 4: To assure that new fluoridation equipment installed by IHS is functioning correctly and adjusted so as to consistently deliver water with the desired fluoride content.

Primary-Responsibility: OEH Area/Program Directors and OEH staff.

Functions:

- a. On initial startup, field analysis of water samples shall be conducted every day until the-acceptable recommended range is obtained for at least 10 consecutive days.
- b. Analytical results obtained during the startup period, as well as maintenance and repair experience prior to transfer of the equipment, shall be reported in accordance with Section D-3. In addition, an Fluoridation System Add/Delete Form" (form HSA-T-79-2 Fluoridation Data System) shall be completed and submitted to the IHS Fluoridation Data System.

- C. At the time of transfer, verification of field analytical instrument accuracy shall be made by obtaining a water sample and comparing field analytical results with results obtained on a portion of the same sample submitted to a Regional, Area, or State laboratory.
- d. At the time of transfer of ownership, all fluoridation equipment shall be installed and operating properly. 'In addition, all chemicals and appurtenances (masks, aprons, reporting forms, etc.) shall be available and properly stored.

Objective 5: To train tribal/community water system operator(s) to become competent in monitoring\* fluoride levels and maintaining the fluoridation equipment in proper working order.

Primary Responsibility: OEH Area/Program Directors and OEH staff

Functions:

- a. Training should include presence of water system operator(s) during installation so that component parts are identified and observed being put in place.
- b. Training in the operation of the fluoride feed equipment, analytical equipment, and use of safety equipment should result in the operator(s) being able to demonstrate to the trainer that fluoride levels can be maintained within the acceptable range, that analytical technique and instruments can be used properly and accurately, and that safety equipment can be properly used.
- c. Appropriate training reference materials and O&M Manuals should be provided to the operator(s).
- d. Operator(s) should be able to accurately explain analysis, monitoring, and reporting requirements; safety precautions; fluoride concentration calculation; and supply procurement procedures to the satisfaction of the trainer.
- e. Operator(s) shall receive training from the Area or Service Unit Dental Officer on the value of optimal water fluoridation to oral health, savings in care dollars, promoting general health, etc.
- f. All replacement or supplemental water system operator(s) shall receive the training as indicated in items b and e above.

\*Monitoring, which is the legal responsibility of the supplier of water, as distinct from surveillance which is an IHS responsibility, is defined as the routine collection and analysis of samples to determine if the fluoride level is within the desired range.

Objective 6: To provide surveillance\* on a regular basis on water systems with adjusted fluoride levels and make recommendations for remedial action-to appropriate tribal/community authorities.

Primary Responsibilities : SUD

Functions:

- a. The SUD shall be responsible for seeing that monitoring is adequately performed and that results are properly reported. To assist the SUD to meet these responsibilities, the Director, Dental Professional Standards, will provide monthly reports from the IHS Fluoridation Data System, for each system within the Service Unit. 'Copies of the reports will also be provided to OEH Area/Program Directors.
- b. Where acceptable monitoring and reporting is not performed by the tribe/community, the SUD shall request the fluoridation team leader to arrange to have samples collected, analyzed and results submitted to the IHS Fluoridation Data System. The IHS however, should not assume routine monitoring responsibility.
- c. Whenever analytical results indicate that the system is being improperly fluoridated, or that analytical results may be faulty, the supplier of water and/or system operator shall be notified within 48 hours and technical or other assistance offered.

Objective 7: To provide technical assistance on systems under surveillance where problems occur and when technical assistance is requested by the tribe/community.

Primary Responsibility: DEH Area/Program Director and OEH staff.

Functions:

- a. Technical assistance by the IHS shall be continuously available to the tribe/community upon request.
- b. Where problems are being experienced by the tribe/community in maintaining the fluoride levels within recommended ranges, technical assistance will be offered by the IHS.

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\*Surveillance is defined as the review of fluoridation operation, including a review of the adequacy of monitoring and reporting as performed by the facility owner and/or operator.

#### 4. CONTROL LIMITS, SAMPLE COLLECTION, AND ANALYSIS AND REPORTING REQUIREMENTS

##### 1. Control Limits

The fluoride level in fluoridated water systems should be maintained as close to the recommended concentration as possible, and in no case above or below the ranges noted below.

Annual Average of Maximum Daily Air Temperatures (oF)	Recommended Fluoride Concentrations		Allowable Range of Fluoride Concentrations	
	Community (ppm)	School (ppm)	Community (ppm)	School (ppm)
50.0 - 53.7	1.2	5.4	1.1 - 1.7	4.3 - 6.5
53.8 - 58.3	1.1	5.0	1.0 - 1.6	4.0 - 6.0
58.4 - 63.8	1.0	4.5	0.9 - 1.5	3.6 - 5.4
63.9 - 70.6	0.9	4.1	0.8 - 1.4	3.3 - 4.9
70.7 - 79.2	0.8	3.6	0.7 - 1.3	2.9 - 4.3
79.3- 90.5	0.7	3.2	0.6 - 1.2	2.6 - 3.8

##### 2. Sample Collection and Analysis

- a. Samples for analysis should be obtained from a convenient tap on a main line of the water system that is representative of the water throughout the system. In some systems with multiple sources more than one sample may be required.
- b. Samples for fluoridation analysis should be collected and analyzed as follows:
  - Weekly intervals w/split sample every fourth week.
  - Anytime equipment failure or malfunction is suspected.
  - Immediately following repair of equipment.
- c. All fluoride monitoring instruments should have their measurement results verified by split sampling of the last sample collected each month. The split sample should be analyzed at a recognized laboratory, preferably an EPA or State approved facility.

##### 3. Reporting

- a. Analytical Results: Analytical results of all samples for each water system should be recorded on the Fluoride Analysis Report Form (HSA-T-79-1) and submitted to the address indicated on the form for data processing. Normally this should be done by the system operator.



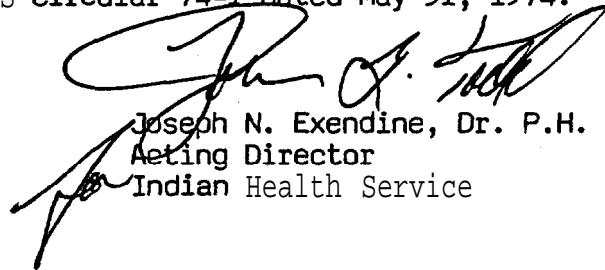
- b. Maintenance and Repair Reports: Fluoride System  
Maintenance and Repair Reports are important to assessing community maintenance and repair capacity, assessing reliability and appropriateness of various types of equipment and as a determinant of areas for further technical assistance and training. The IHS Fluoride Maintenance and Repair Report Form (HSA-T-79-3) should be completed as maintenance or repair is performed and submitted for data processing to the address indicated on the form. All water sources within systems should be identified with a unique two digit identifier added to the sanitation facility number (unique EPA identifier number). The Area OEH should maintain a master list of sanitation facility codes and source number(s). These numbers should be used when reporting routine maintenance and repair activities. The Fluoride Maintenance and Repair Reporting System allows for information input by tribal, IHS, or other sources.

5. Criterion for Success

The success of the IHS fluoridation program will be judged by the extent to which community and school water systems used by American Indians and Alaska Native people contain fluorides, either naturally occurring or supplemented, at levels within the desired range.

6. Supersession

This circular supersedes IHS Circular 74-1 dated May 31, 1974.

  
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